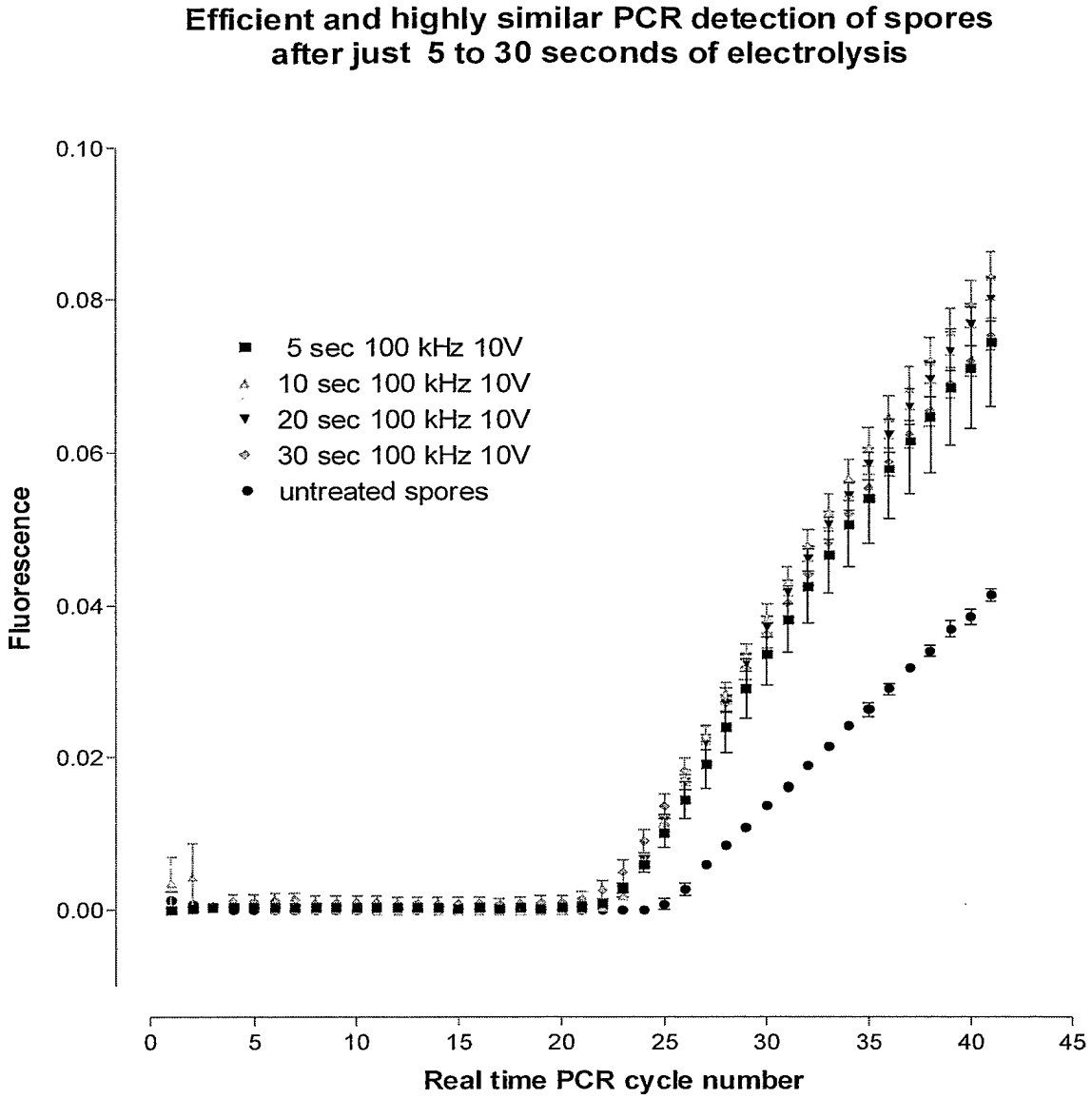
Efficient and highly similar PCR detection of spores
after just 5 to 30 seconds of electrolysis
0.10
0.08
0.06
0.04
0.02
0.00
Fluorescence
5 sec 100 kHz 10V
10 sec 100 kHz 10V
20 sec 100 kHz 10V
30 sec 100 kHz 10V
untreated spores
0
5
10
15
20
25
30
35
40
45
Real time PCR cycle number

Fig. 1

Prolonged electrolysis can reduce the PCR detection sensitivity, presumeably by producing excess amounts of template DNA.

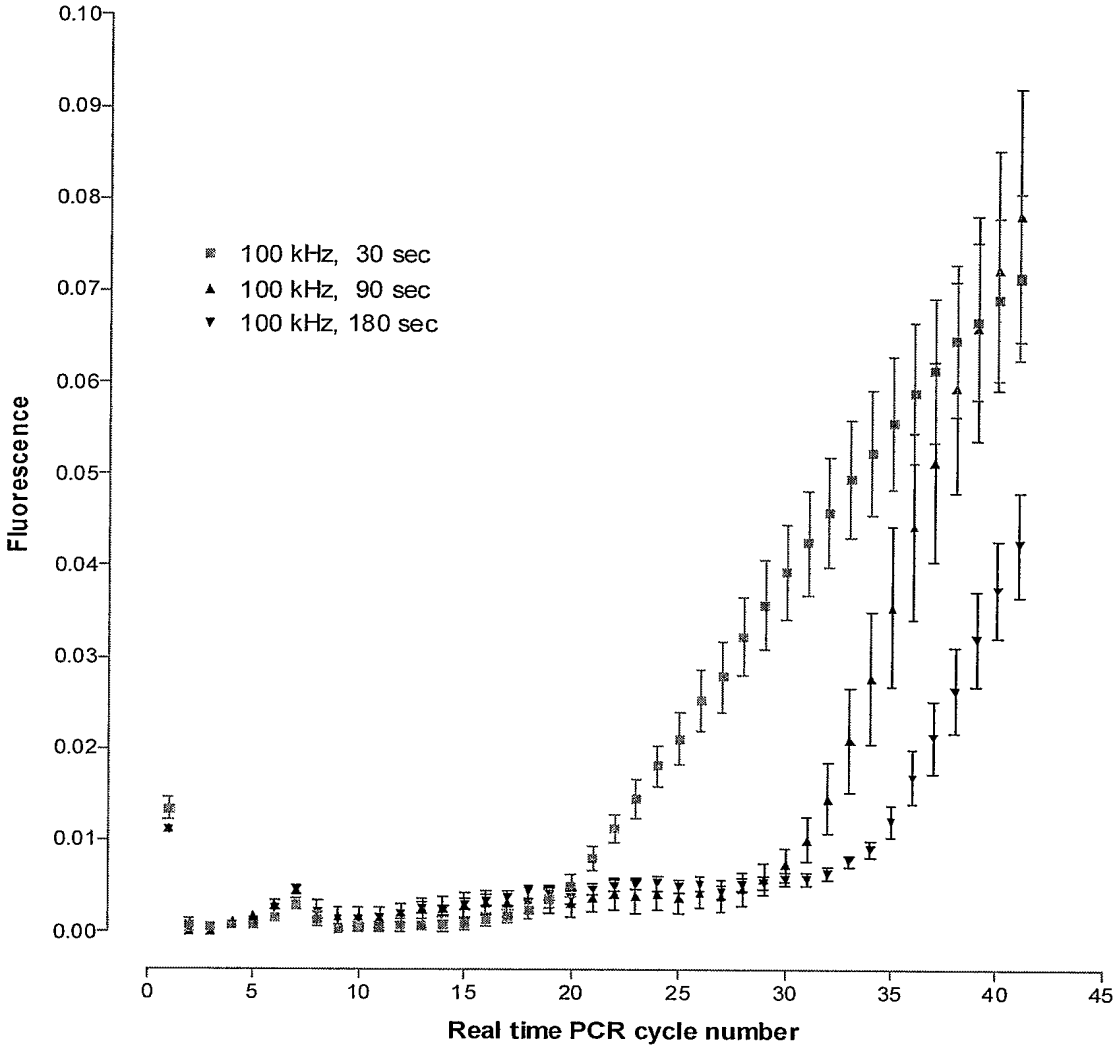

Fig. 2

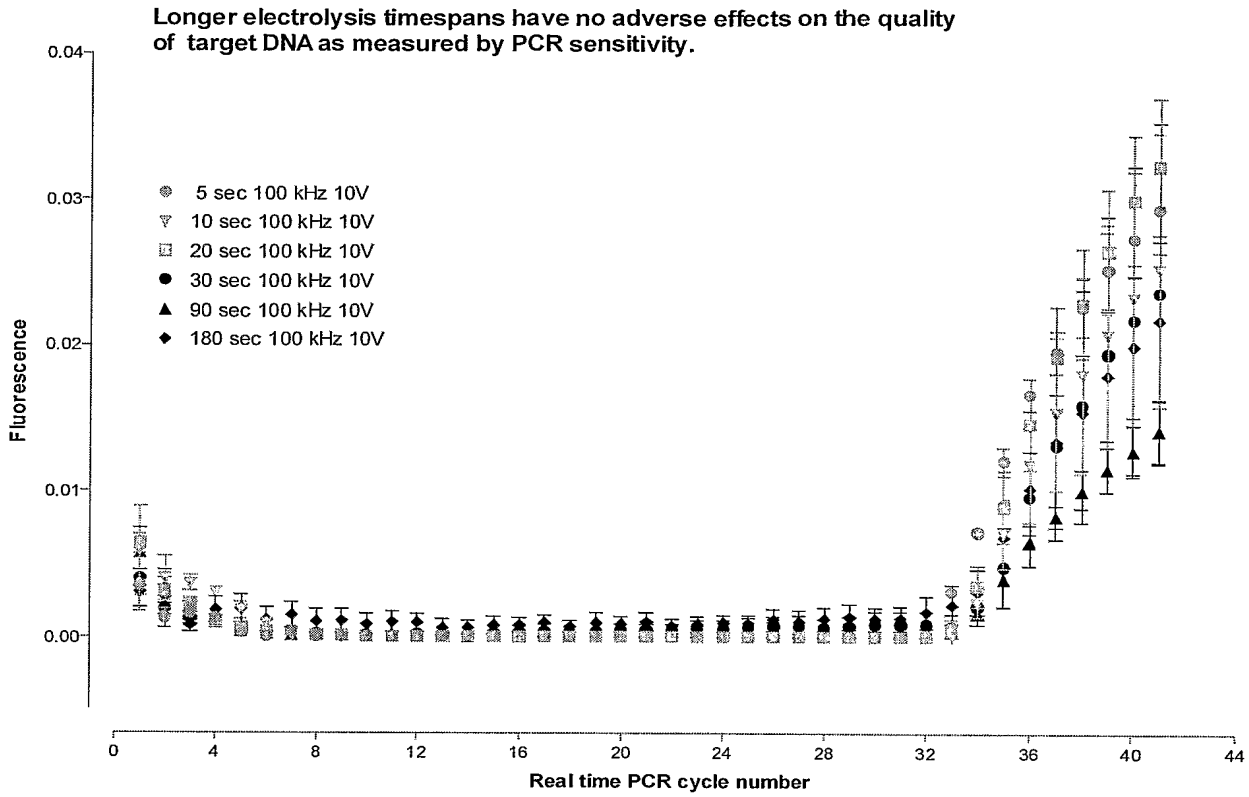
Longer electrolysis timespans have no adverse effects on the quality of target DNA as measured by PCR sensitivity.
5 sec 100 kHz 10V
10 sec 100 kHz 10V
20 sec 100 kHz 10V
30 sec 100 kHz 10V
90 sec 100 kHz 10V
180 sec 100 kHz 10V
Fluorescence
0.04
0.03
0.02
0.01
0.00
0
4
8
12
16
20
24
28
32
36
40
44
Real time PCR cycle number

Fig. 3

Electrolysis of spores using either 10 or 50 kHz does not influence DNA yield, whereas 100 kHz results in a significant effect.

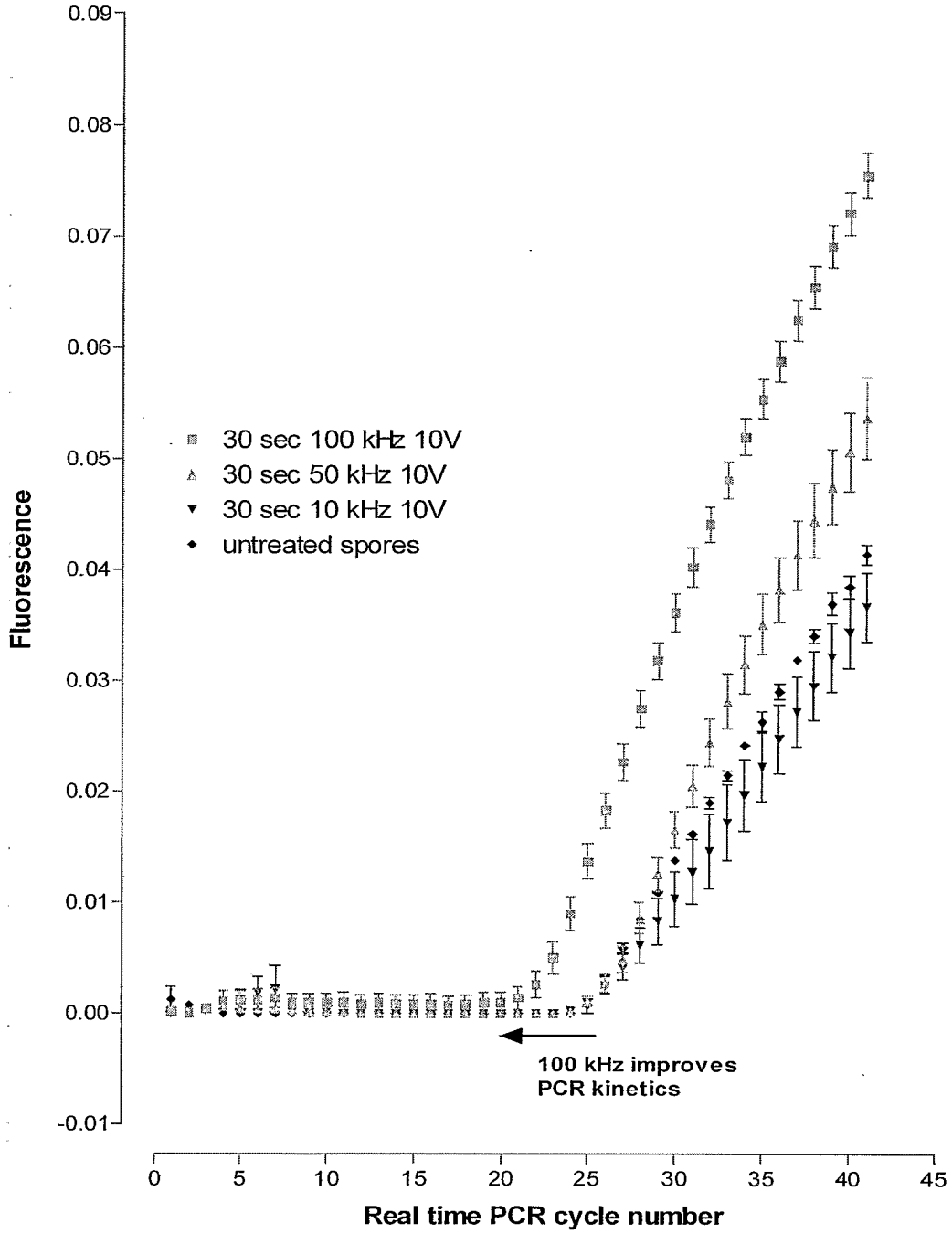

Fig. 4

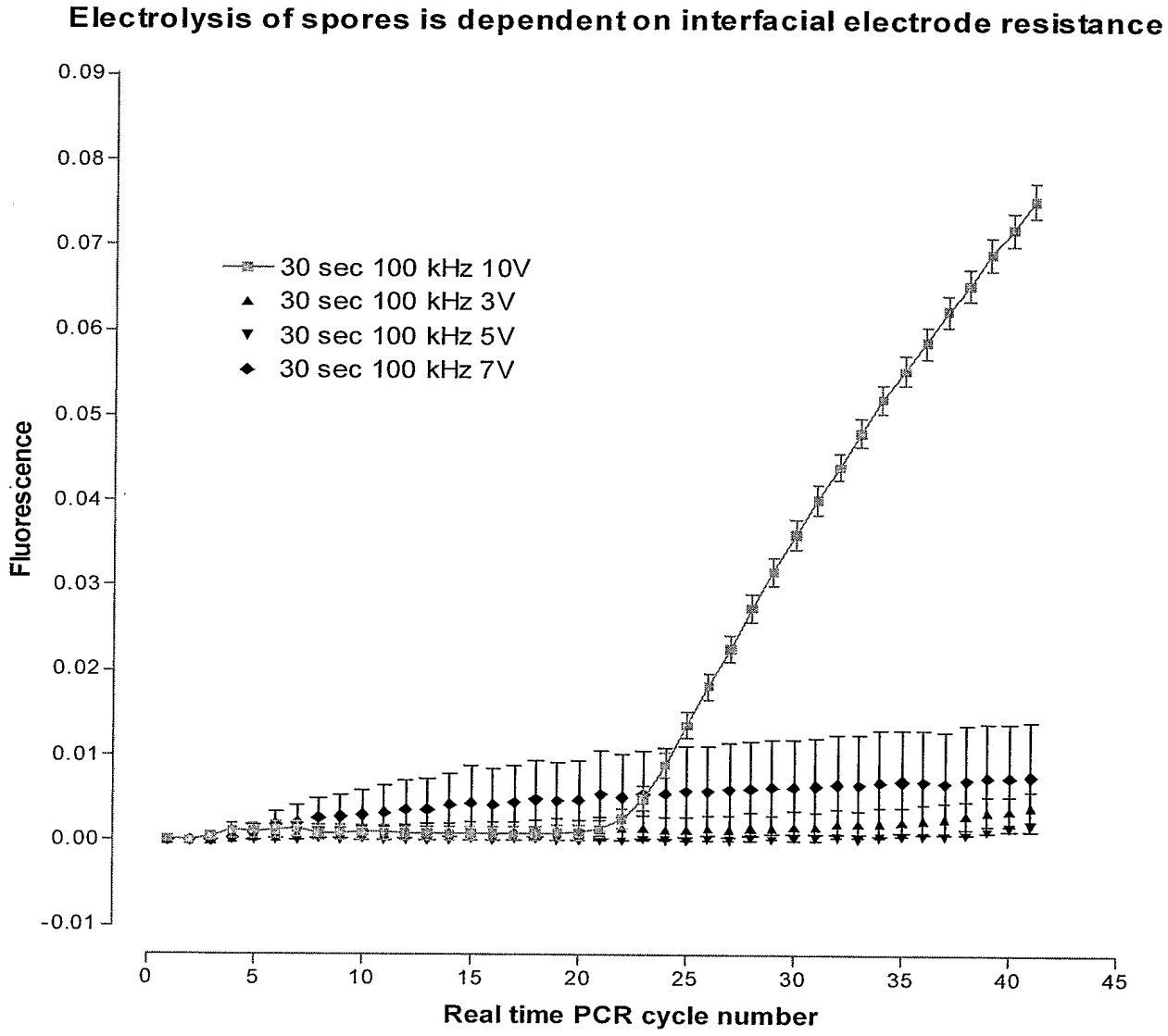
Electrolysis of spores is dependent on interfacial electrode resistance
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0.00
-0.01
Fluorescence
30 sec 100 kHz 10V
30 sec 100 kHz 3V
30 sec 100 kHz 5V
30 sec 100 kHz 7V
0
5
10
15
20
25
30
35
40
45
Real time PCR cycle number

Fig. 5

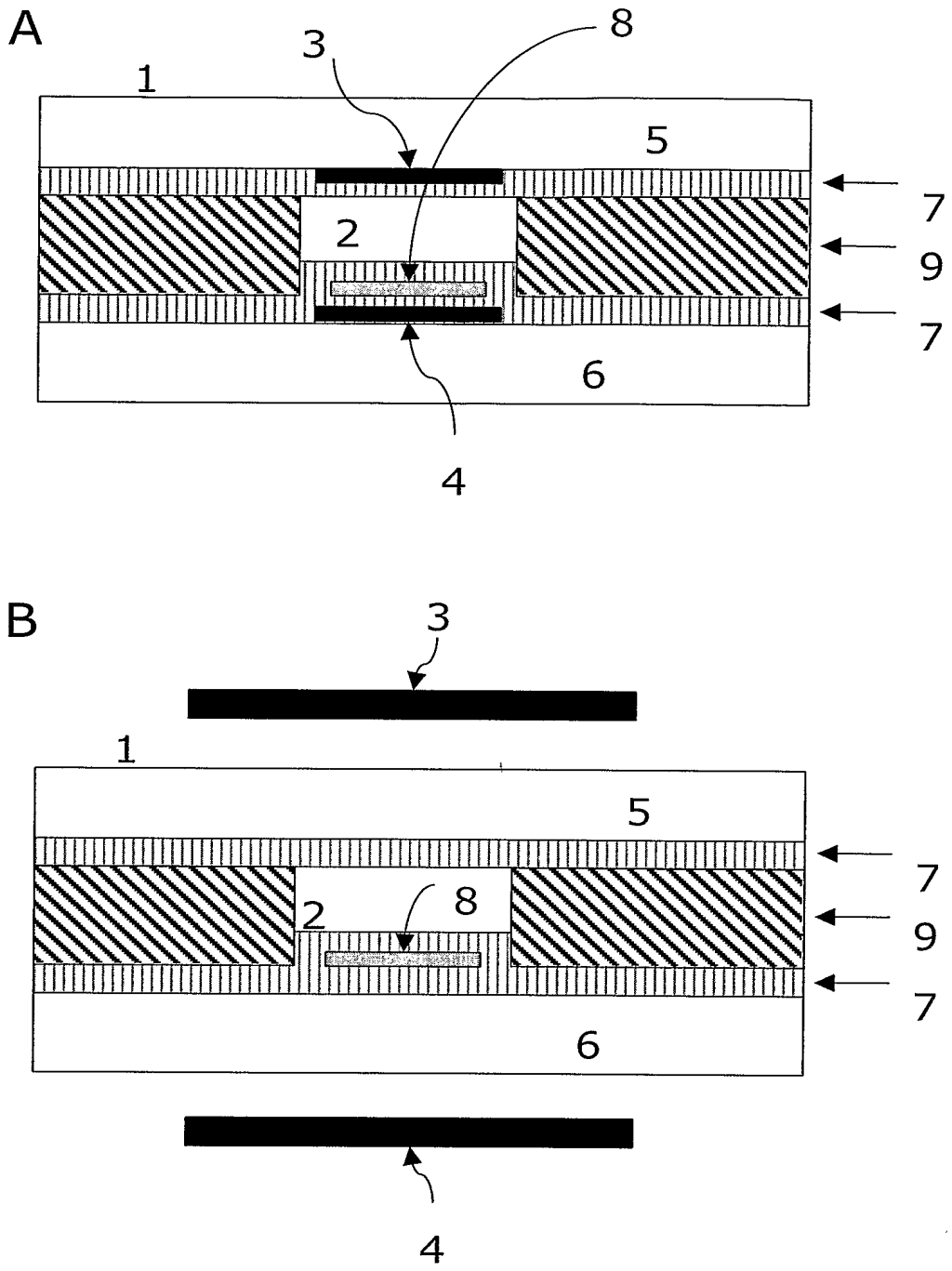

Fig. 6